

56. (New) The gas purification system as recited in claim 50, wherein said hydrogen sorption material is selected from among the group consisting of: Zr-V-Fe alloys and Zr-Fe alloys.

REMARKS

The Examiner is thanked for his time for the in-person conferences of January 29, 2003 and May 30, 2003. Claims 11-20 and 50~~5~~. Claims 11 and 50 are the independent claims.

In the previous action, the original filed independent claim 48 was cancelled by the applicant. However a more thorough examination of the art cited by the Examiner and based on the in-person conferences of January 29, 2003 and May 30, 2003, the Snow reference does not anticipate the originally filed independent claims.

Priority Document

This application claims priority under 35 U.S.C. § 119(e) to U.S. provisional application 60/143,377 (filed July 12, 1999). Claims 21-47 have been cancelled in this application and claim 11 has now been amended to enlarge the scope such that it is fully supported by priority document. The applicant makes no admission that claims 21-47 as amended in previous amendments were not disclosed in the priority document, however, for the sake of clarification and expedition, it is now believed that all pending claims are fully supported by the priority document.

35 U.S.C. 102(b) rejection and cited art

The scope of the amended independent claim and 11 has been enlarged to include the originally filed claim. The scope of claim 50 now corresponds to originally filed claim 1, with the exception that the apparatus claim includes a low temperature hydrogen source.

After further review of the Snow et al. (U.S. Pat. No. 5,456,470, 10/10/95) reference cited by the Examiner in previous office action, the Applicant believes that the Snow reference

was not correctly understood and applied by the Examiner in the office actions. The Snow reference does not specifically teach hydrogen removal as was discovered by the Applicant.

In particular, the Snow reference does teach *gas purification* and filtering in col. 2, lines 28-53, where he teaches that the WAFERPURE Mini XL® made by Millipore (the assignee of the Snow patent) includes a purification material and a filter. The WAFERPURE Mini product line (now assigned to Mykrolis) was investigated and submitted in an IDS on May 30, 2003. It was observed that the WAFERPURE Mini product line did not include hydrogen removal among the many different products. It was further observed that Snow mentioned that removal of hydrogen only took place at elevated temperatures (col. 2, line 59) between 700-900 degrees C. The Applicant respectfully submits that this teaching would be inoperative for the claimed invention and would not teach any practical hydrogen removal (which does not occur at high temperatures for apparent reasons). The Snow text from col. 2, line 59- col. 3, line 19 supports this conclusion.

During the in-person interview of May 30, 2003, it was agreed that Snow could not teach hydrogen removal and particle filtering as claimed in the present invention and the previous 102 rejection should be withdrawn. Therefore, the original scope of the originally claim 1 with the limitation of including a low temperature hydrogen source in the form of a gas from which hydrogen is to be removed is not anticipated by the Snow reference.

35 U.S.C. 103(a) rejection(s)

Because the Snow teachings would not be appropriate for hydrogen removal from a gas stream, and Snow only mentions that hydrogen may be removed at 700-900 degrees C, the claimed invention would not be rendered obvious by Snow, as the Snow reference teaches away from the claimed invention. Furthermore, the high temperatures taught by Snow would affect the filter unit in the claimed invention as to cause it to not function as described, possibly adding hydrogen. The Snow reference would therefore not be appropriate for any type of 103 rejection. Thus the rejection in which Snow is combined with Boffito is not

The Briesacher et al. reference (U.S. Patent 5,238,469, 8/24/93) assigned to the Applicant does not teach that a hydrogen absorption unit is combined with a filter of any type. Briesacher teaches that in a gas purification system, a contaminated gas is passed through getter vessel including getter material from a group of getters. The partially cleaned gas is still hydrogen contaminated after leaving the getter vessel and cooled by a heat sink before passing through a hydrogen absorption unit. There is not a suggestion in Briesacher that the gas passes through a filter anywhere in the system, nor that one of the units should be combined with a third function type of unit. The Applicant believes that Snow cannot be combined with Briesacher.

An inspection of Published Japanese Application 02-293310 to Takahashi (4/12/90), submitted in the IDS on May 30, 2003, teaches a less specific gas purification system than Briesacher, as Takahashi teaches that gas contaminated with hydrogen is cooled, while simultaneously oxygen and carbon monoxide may be removed. The applicant believes that the simultaneous removal of oxygen and CO and subsequent contact with an absorbent would make the Takahashi teachings unsuitable for the present invention. The Applicant is not representing that Takashashi does not use a similar hydrogen removal process than the claimed invention, but rather that such a process would be less relevant to the claimed invention because of the overall teachings and the subsequent contact with the absorbent. The Applicant submits that the teachings of the Takahashi reference are less relevant to the claimed invention than those of the Briesacher teachings and in neither case are there suggestions for filtering units anywhere in the gas purification system.

Finally, the integration of a filtering device with a hydrogen sorption unit into a single device has not been suggested by any of the references cited by the Examiner. The Mykrolis WAFERPURE® product line does not show any product for hydrogen removal. The Applicant submits that any reference relevant to the claimed invention, must be specifically related to hydrogen sorption and not just generally to gas purification because of the requirement that references used under 103(a) are in the analogous arts. See MPEP

Should the Examiner find that the claimed invention is obvious in light of the cited or other relevant art, the Applicant expressly reserves the right to submit evidence in the form of a declaration in a Supplementary Amendment and Remarks, pursuant to 35 U.S.C. § 25 and 37 C.F.R. § 1.132, that the claimed invention is not obvious and therefore allowable.

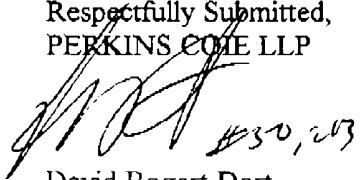
Furthermore, without regard to any evidence submitted under 37 C.F.R. § 1.132, the Applicant reserves the right to file a terminal disclaimer to the Briesacher reference should the Examiner find that any of the present pursued claims falls under 35 U.S.C. §103(c).

The rejection of claims 1-10; 21-47 is no longer relevant. The rejection of claim 48 applies partially to newly filed claim 50 and was addressed above. The applicant expressly reserves the right to argue any issue that the Examiner raised regarding the cancelled claims in this or a continuing application.

CONCLUSION

The Applicant submits that claims 11-20 and 50-56 are now in condition for allowance. Should the Examiner believe that a telephonic or in-person conference would expedite prosecution of the Application, he is encouraged to contact Applicant's counsel at the contacts listed below.

Respectfully Submitted,
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Dated: June 25, 2003
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JUN 26 2003

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